**IN THE CLAIMS:**

1-23. (Cancelled)

24. (Currently amended) A method of introducing a nucleic acid encoding a desired molecule into cardiomyocytes which comprises:

infusing a recombinant adeno-associated virus (AAV) vector into a coronary artery or a coronary sinus of an animal in an amount of about $1 \times 10^5$ to about $1 \times 10^9$ infectious units (IU) AAV per gram body weight and for a time ~~and in an amount~~ sufficient to stably and efficiently transduce cardiomyocytes perfused through said artery or said sinus, wherein said AAV vector comprises at least one nucleic acid operably linked to a control region, said nucleic acid encoding said desired molecule.

25. (Previously added) The method of claim 24, wherein said AAV transduces at least about 10% of said cardiomyocytes.

26. (Previously added) The method of claim 24, wherein said AAV transduces at least about 40% of said cardiomyocytes.

27. (Previously added) The method of claim 24, wherein said AAV transduces at least about 50% of said cardiomyocytes.

28. (Previously added) The method of claim 24, wherein said AAV is infused for at least about 2 minutes to about 30 minutes.

29. (Previously added) The method of claim 24, wherein said AAV is infused for at least about 5 minutes to about 20 minutes.

30. (Previously added) The method of claim 24, wherein said AAV is infused for about 15 minutes.

31. (Cancelled)

32. (Currently amended) The method of claim ~~31~~ 24, wherein said amount of AAV is about 1 x $10^6$ IU AAV per gram body weight to about 1 x $10^8$ IU AAV per gram body weight.

33. (Previously added) The method of claim 32, wherein said amount of AAV is about 6 x $10^7$ IU AAV per gram body weight.

34. (Cancelled)

35. (Currently amended) The method of claim ~~34~~ 28, wherein about 1 x $10^6$ IU AAV per gram body weight to about 1 x $10^8$ IU AAV per gram body weight is infused.

36. (Previously added) The method of claim 35, wherein about 6 x $10^7$ IU AAV per gram body weight is infused.

37. (Currently amended) The method of any one of claims ~~34~~ 28, 35 or 36, wherein said AAV is infused for about 5 to about 20 minutes.

38. (Currently amended) The method of ~~any one of~~ claims 37, wherein said AAV is infused for about 15 minutes.

39. (Currently amended) The method of claim ~~34~~ 24, wherein about 6 x $10^7$ IU AAV per gram body weight is infused for about 15 minutes.

40. (Previously added) The method of claim 24, wherein said coronary artery is infused *ex vivo* or *in vivo*.

41. (Previously added) The method of claim 24, wherein said desired molecule is an anti - sense RNA or a protein.

42. (Previously added) The method of claim 24, wherein said desired molecule is an ion channel gene, a contractile protein, a phospholamban, a β adrenergic receptor, a β adrenergic kinase, a growth factor, an angiogenic factor, a protein or nucleic acid capable of inducing angiogenesis, or a protein or nucleic acid capable of inhibiting angiogenesis.

43. (Previously added) The method of claim 24, wherein said desired molecule is FGF-1, FGF-2, FGF-5, VEGF, or HIF-1.

44. (Previously added) The method of claim 24, wherein said desired molecule is thymidine kinase, p21, p27, p53, Rb or NF-κB.

45. (Previously added) The method of claim 24, wherein said cardiomyocytes are in an individual having a vascular condition selected from the group consisting of restenosis, atherosclerosis, congestive heart failure, ischemic cardiomyopathy, malignant arrhythmia, myocardial infarction, congestive heart failure, and dilated and hypertrophic cardiomyopathy.

46. (Previously added) The method of claim 24, wherein said desired molecule has an effect selected from the group consisting of inducing angiogenesis, inhibiting angiogenesis, stimulating or inhibiting cell proliferation, treating restenosis, treating atherosclerosis, treating congestive heart failure, treating ischemic cardiomyopathy and treating malignant arrhythmia.